

**Course 3000-77 Technical Review of Mineral Reports
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Common Flaws in Mineral Reports Received for Secretarial Review

I. Summary and Conclusions.

Verbose, repeat of Introduction Section, lacking tables of valid claims and invalid claims, statement of findings of fact and conclusions of law. No statement of the problems or issues to be resolved.

II. Regional Geologic Setting

Some are overly broad on regional settings, not focusing on regional controls to mineralization. Others are concise and to the point.

III. Site Geology

Overly broad, academic in nature, not focused on controls of mineralization. Geology at this scale should be viewed with respect to its hosting and controlling of mineralization, and the potential for location of additional reserves.

Examiner's need to confirm mine supplied or published geologic maps and data of the property. Do not accept these at face value - mistakes can be made!

Stratigraphy often academic, no ties to local mineralization situation. This is especially glaring with placer gold deposit reports.

Structure (faults and folds, crackle zones, etc) often discussed academically but not tied to mineralization. If no tie, this is also frequently not mentioned.

Alteration envelopes and mineralogy not always tied to mineral deposit characteristics. Alteration mineralogy may also affect bulk rock weights (pounds per cubic feet) for tonnage calculation purposes. (Altered rock weights less than fresh rock!!).

Physical character of the rock units with respect to mining and engineering conditions are frequently not discussed (rock weights, breakage, bulk mineral compositions).

IV. Mining History

Variable in presentation. Some quite good and tied to deposit and District level conditions and future guides to mineralization. Others are quite sparse and/or are not tied to influence on the behavior of the deposit being examined.

District production statistics often overlooked. District production often lumped, even if individual mine data is available.

District and mine level data can be quite useful in conveying to the reviewer the setting and viability of the deposit under examination.

V. Mineral Deposits

Presentation and development is highly variable. Some reports have very good deposit descriptions and corresponding deposit models developed. Others have rudimentary presentation and development of the deposit model.

Deposit model is essential for further development of mine plan, mine costing, and reserve calculations.

Use proper classification of mineralized masses. The terms "resource" and "reserves" have specific legal and technical criteria and must not be interchanged. The level of confidence and classification must be clearly denoted: (1) "measured"- "proven"; (2) "indicated"- "probable"; and (3) "inferred"- "possible." "Demonstrated" equals (1) + (2).

Remember that only (1) qualifies for the initial discovery and then (2) can be added for enhancement of project reserves and economics. (Feezor cases).

Tonnage and grade calculations of resources need particular caution. Many errors in arithmetic occur as well as choosing weights factors from reference sources when the deposit rocks may have different weights to them, due to alteration or mineralization events.

VI. Mineral Exploration and Development Work

Variable presentation in reports. Can be difficult to acquire necessary information also. A good synopsis of prior work by operator, methods, and results if known, can assist the examiner and reviewer in evaluation of the deposit. It can also assist in long term outlook for the deposit. If you know what has been done and where, it allows you to evaluate need for future work and where to focus it.

VII. Mining, Milling, and Related Operations

Highly variable analysis and presentations. This area develops the mine model and the processing plan for extraction. It forms the basis for cost estimation and product recovery, and sets the stage for the economic evaluation to follow.

Many reports have no mine plans or minimal ones, especially for placer operations. Many non operating properties are given a "mine plan" by the claimant as a broadly focused "this is how I've mined before on another creek" and the CME does not attempt to refine the mine plan or try another, more logical model for the property in question.

Some mine plans are not properly thought through. Equipment is mis-matched to operating load requirements or is mis-matched to road sizes.

Computer mine models need to be thoroughly understood by the examiner before using them. These models are all biased in one way or another as to what aspects they will emphasize and what aspects they will treat minimally. (Remember GIGO!!).

Engineering of roads and pads is often "guestimated" or figured out using broad "rules of thumbs." Mineral examiners need to have certain aspects of their reports worked on by mining or civil engineers when significant "dirt work" is required in order to determine reasonable engineering costs of such construction. Some of these reports may require a "team approach" with several people working together on the project.

Treatment of minerals and mineral processing is variable as to evaluation and processing requirements. The applies mainly to operations actually requiring a grinding and flotation circuit, but the same could apply to gold and copper heap leaching projects as well. Speciality circuits require additional explanation.

Lack of mill or processing circuit diagrams, or very rudimentary ones at best.

Transportation costs to mills and smelters, if material is processed off site, are frequently overlooked, or discounted as not significant.

Lack of explanation of why or how certain costing factors are chosen by the examiner. In particular these include wage rates, ton-mile costs, recovery rates of mills, "rules of thumb," and the like.

For open pit or placer operations, stripping ratios are not adequately derived or explained to the reviewer. This has also lead to errors later in the calculations by the examiner.

Occasionally the location and placement of waste dumps and spoil piles is not addressed or is addressed in an "off handed manner." Remember your mass balance calculations!!

VIII. Sampling Procedures and Analytical Work.

Major problem area for many reports.

General Problems in Sampling

Sample correlation of BLM and claimant's previous sampling is a problem. There are techniques available to use here that will allow correlation curves to be constructed to verify reliability of previous sampling. If different labs or methods are used by BLM and the claimant, correlation is a problem.

Proper analysis of placer gold material and tails is still a problem in some areas (amalgamation and fire assays or AA).

Explanation of analytical limits or "floors" of the method chosen needs to be presented.

Same for recovery rates of leach tests, filtration testing, etc.

Incomplete sample descriptions or explanations of how the examiner selected confirmation samples.

Examiner's are not explaining (or are ignoring) treatment of isolated high value samples in a sample string when averaging the string. There is a "nugget effect" here that must be compensated for.

Placer Deposits

Placer gold sampling is often not tied to geologic framework of the deposit, making it difficult (if not impossible) to correlate gold bearing units. Placer sample spacing is haphazard and not tied to geologic framework. Rationale for sample spacing usually missing. Why did you dig here and not there?

Placer samples often of minimal volume so that the nugget effect enters in. Also insufficient volume leads to under reporting of actual contained values.

Bedrock Deposits

Bedrock mines geology often not tied to sampling program either.

Bedrock mines (gold and copper) have occasional nugget effects due to sampling bias of material. These need to be explained clearly and accounted for in text of report. One major report was remanded for further underground sampling in coarse grained copper ores because reviewer did not understand the problems caused by small sample sizes and large copper mineral grain sizes. A paragraph in the report would have resolved the issue and prevented the remand.

IX. Economic Evaluation

This is a major problem area in many reports. Many are short on details, although several have been very detailed and precise.

Market Studies

Market studies for common variety minerals are insufficient in many cases. They only focus on the producer or the current local market. Other producers and their market share are often neglected. Regional market factors are not sufficiently explored or explained.

Pre-1955 claims are especially sensitive to this as discovery and marketability must be shown as of July 23, 1955 and the current time frame: as the 1955 date is a withdrawal date.

Industrial minerals generally have limited local or regional markets and these must be fully documented as well as the ability of the claimant to successfully enter these established markets. The amount of material that can be entered by the claimant and his reasonable future sales must also be established.

If excess reserves are at issue, the market study is the key factor in addressing this issue. Without a proper market analysis, no defensible position on excess reserves can be made by the examiner.

Some cases with speciality markets have been thinly documented, leading to further work by the examiner imposed through the Secretarial Review process to justify the recommendation to issue a mineral patent.

Withdrawal Dates

A surprising number of reports have been submitted where the examiner knew the land was withdrawn or segregated, and failed to address discovery and marketability at the time of withdrawal!! Several reports have come in where the case record had shown the land withdrawn, but the examiner was not aware of it either!!

Cash Flow Models

Variable presentations, but usually good quality. Many are prone to mathematical errors in and out of spreadsheets. Commercial software packages are not fully understood by the examiner as to how the data is treated, manipulated, and presented. (Remember GIGO!!).

Ore Reserve Calculations

Variable presentations. Many errors in mathematics. Selection of tonnage factors

(weight per cubic foot or cubic yard) can be a problem. Volume calculations do not always consider expansion and swell factors. Use actual weights when available, not average weights from manuals and handbooks.

Grade calculations are variable. Some examiners present net recoverable grades, others choose gross recoverable grades. Not all are properly quantified by reference to derived recovery or dilution factors. In placer gold examinations, the fineness of the gold recovered is frequently ignored in the economic evaluation of the operation.

Many examiners are forgetting the technical and factual distinction between a "resource" and a "reserve." Several reports have been remanded for further work because a "resource" was identified for mining, but not a "reserve" in the actual sense.

X. Other Matters

Reliance on pages of text when several well organized sequential tables will do.

Failure to list each claim found valid with its reserves (tonnage and grade) that lie above the projects cutoff grade.

Many maps and charts are not well focused on the property in question - with scales too large so that essential features are obscured or reduced, being difficult to see.

Failure to look into assessment work compliance during periods when the lands were withdrawn.

Table 1 - Mineral Reports Reviewed Under Secretarial Review Process - History and Status

SERIAL	APPLICANT	LOGIN660	SENTSOL	SIGNSEC	SENTSD	REASON	AGENCY	R P I N C
N-0052340	AMERICAN BORATE COMPANY	07/22/1994	10/14/1994				BLM	1
N-0052341	AMERICAN BORATE COMPANY	07/22/1994	10/14/1994				BLM	1
N-0053378	AMERICAN BORATE COMPANY	07/22/1994	10/14/1994				BLM	1
MTM-78916	AMERICAN COLLOID COMPANY	03/25/1994	06/03/1994	05/03/1995			BLM	2
MTM-81862	AMERICAN COLLOID COMPANY	11/03/1995	11/15/1996	06/18/1997			BLM	2
AA-071472	ANTHONY, MICHAEL R	09/07/1995	05/30/1996			wage scale, w/d, no market analysis	NPS	3
CA-019376	ANTOLINI, G & SON	07/30/1994	11/10/1994	08/30/1995			USIS	4
AZ-028495	ARIZONA EXPLORING & MINING	08/21/1997	12/29/1997				NPS	5
AZA-26477	ASARCO INC	11/28/1994	06/09/1995	12/01/1995		reserves	USIS	6
AZA-26478	ASARCO INC	11/28/1994	06/09/1995	12/01/1995		reserves	USIS	6
AZA-26479	ASARCO INC	11/28/1994	06/09/1995	12/01/1995		reserves	USIS	6
AZA-26481	ASARCO INC	11/28/1994	06/09/1995	12/01/1995		reserves	USIS	6
NV-055691	BARRICK GOLDSTRIKE MINES	03/25/1993	05/12/1994	05/17/1994			BLM	7
NV-055692	BARRICK GOLDSTRIKE MINES	03/25/1993	05/12/1994	05/17/1994			BLM	7
NV-055693	BARRICK GOLDSTRIKE MINES	03/25/1993	05/12/1994	05/17/1994			BLM	7

SERIAL	APPLICANT	LOGIN660	SENTSOL	SIGNSSEC	SENTSD	REASON	AGENCY	R P I N O.
NV-055700	BARRICK GOLDSTRIKE MINES	03/25/1993	05/12/1994	05/17/1994			BLM	7
NV-055732	BARRICK GOLDSTRIKE MINES	03/25/1993	05/12/1994	05/17/1994			BLM	7
NV-055751	BARRICK GOLDSTRIKE MINES	03/25/1993	05/12/1994	05/17/1994			BLM	7
NV-055780	BARRICK GOLDSTRIKE MINES	03/25/1993	05/12/1994	05/17/1994			BLM	7
OR-047320	BROWN, DARRELL & LILLIAN	11/28/1994	05/10/1995			Title, w/d, discovery	USFS	8
CA-027810	BRUBAKER-MANN, INC	02/06/1995	02/19/1997				BLM	9
CACA15756	BURTON, CECIL & RUBY	07/17/1995	08/28/1995				USFS	10
PF-023138	COCKING, DUANE A.	05/20 1996			01/03/1997	Sampling, recovery, economics	BLM	11
F-0035224	COLE, JOHN H	04/17/1995	06/09/1995	06/16/1997			BLM	12
IDI-20886	COLLORD, JAMES & MARJORIE	10/21/1994	11/28/1994				USFS	13
OR-046711	CRAWFORD, BRUCE W	11/10/1993	11/16/1994	05/03/1995		Limited Reserves	BLM	14
AZA-24656	CYPRUS MIAMI MINING CORP	01/31/1994	06/03/1994				USFS	15
ID-027862	CYPRUS THOMPSON CREEK	08/21/1997	01/30/1998				USFS	16
WYW126557	DURTSCHKE, MYRON ET AL	08/08/1995	03/14/1996	06/17/1997			BLM	17
IDI-27456	FAXIE KALK, INC	12/13/1993	07/14/1994	09/06/1995			BLM	18
MTM-77528	FOSTER, MERTON T	01/04/1994	06/03/1994	11/26/1996			BLM	19
MTM-80451	FOSTER, MERTON T ET AL	01/04/1994	06/03/1994	11/26/1996			BLM	19

SERIAL	APPLICANT	LOGIN660	SENTSOL	SIGNSEC	SENTSD	REASON	AGENCY	R P F N O.
MTM-80452	FOSTER, MERTON T ET AL	01/04/1994	06/03/1994	11/26/1996			BLM	19
N-0050134	GOLD FIELDS MINING CORP	03/10/1995	04/14/1995	06/03/1996			BLM	20
N-0050135	GOLD FIELDS MINING CORP	03/10/1995	04/14/1995	04/30/1996			BLM	20
N-0050136	GOLD FIELDS MINING CORP	03/10/1995	04/14/1995				BLM	20
N-0050137	GOLD FIELDS MINING CORP	03/10/1995	04/14/1995				BLM	20
N-0050138	GOLD FIELDS MINING CORP	03/10/1995	04/14/1995				BLM	20
N-0050139	GOLD FIELDS MINING CORP	03/10/1995	04/14/1995				BLM	20
N-0052445	GOLD FIELDS MINING CORP	03/10/1995	04/14/1995	04/30/1996			BLM	20
CA-020881	GOLD FIELDS MINING CORP	03/06/1995	03/13/1995	03/29/1995			BLM	21
CA-024571	GOLD FIELDS MINING CORP	03/06/1995	03/13/1995	03/29/1995			BLM	21
CA-026484	GOLD FIELDS MINING CORP	03/06/1995	03/13/1995	03/29/1995			BLM	21
CA-030754	HANSEN NATURAL RESOURCES	03/16/1995	03/17/1995	03/29/1995			BLM	21
N-0056350	HANSEN NATURAL RESOURCES	07/16/1997	09/04/1997				BLM	22
N-0056352	HANSEN NATURAL RESOURCES	07/16/1997	09/04/1997				BLM	22
N-0056353	HANSEN NATURAL RESOURCES	07/16/1997	09/04/1997				BLM	22
N-0056354	HANSEN NATURAL RESOURCES	07/16/1997	09/04/1997				BLM	22
COC-53197	HOLNAM, INC	08/13/1997					BLM	23
N-0054147	INDEPENDENCE-FMC JERRIT	01/17/1994	03/10/1995	05/19/1997			USFS	24
N-0054148	INDEPENDENCE-FMC JERRIT	01/17/1994	03/10/1995	05/19/1997			USFS	24

SERIAL	APPLICANT	LOGIN660	SENTSOL	SIGNSPEC	SENTSD	REASON	AGENCY	R P I N O
N-0054149	INDEPENDENCE-FMC JERRIT	01/17/1994	03/10/1995	05/19/1997			USFS	24
FF-087278	KILE, ALVIN ET AL	07/23/1997			10/23/1997	Sampling, reserves economics	BLM	25
ID-027147	LAMBERT, JAMES & MARIE	12/24/1996			03/20/1997	Sampling, reserve calculations, economics	USFS	26
NM-086039	LOPEZ, ALBERT	07/24/1997			12/29/1997	Costing, excess reserves	BLM	27
NM-086039	LOPEZ, ALBERT	03/19/1998					BLM	27
FF-085756	LOUNDSBURY, JAMES & HENRY	10/07/1996	03/12/1997			Title, w/d	BLM	28
AZ-018244	MAGMA COPPER COMPANY	07/09/1993	11/24/1993		11/22/1994	Sampling, nugget effect, economics	USFS	29
AZA-18244	MAGMA COPPER COMPANY	09/11/1995	12/12/1995	09/10/1996			USFS	29
OR-042686	MONROE, HAROLD & MARIE	09/04/1994	11/16/1994	08/30/1995			BLM	30
IDI-29459	NERCO DELAMAR CO	07/25/1993	03/07/1994				BLM	31
N-0053268	NEVADA CEMENT COMPANY	09/28/1995	06/06/1996	11/12/1997		Reserves	BLM	32
AA-024795	NEWMAN, SALLY LINDEMAN	03/22/1996			08/29/1996	w/d, market analysis	USFS	33
AA-024795	NEWMAN, SALLY LINDEMAN	01/22/1997	02/11/1997				USFS	33
N-0053261	NEWMONT GOLD COMPANY	12/30/1993	07/14/1994	09/25/1995			BLM	34

SERIAL	APPLICANT	LOGIN660	SENTSOIL	SIGNSSEC	SENTSD	REASON	AGENCY	R P T N O
N-0055977	NEWMONT GOLD COMPANY	12/10/1996	09/15/1997				BLM	35
N-0055978	NEWMONT GOLD COMPANY	12/10/1996	09/15/1997				BLM	35
N-0056101	NEWMONT GOLD COMPANY	12/10/1996	09/15/1997				BLM	35
N-0056755	NEWMONT GOLD COMPANY	12/10/1996	09/15/1997				BLM	36
N-0056808	NEWMONT GOLD COMPANY	12/10/1996	09/15/1997				BLM	37
N-0056809	NEWMONT GOLD COMPANY	04/25/1997	09/15/1997				BLM	37
N-0058227	NEWMONT GOLD COMPANY	09/04/1997	12/29/1997				BLM	38
MT-080435	NORANDA MINERALS CORP	09/22/1993			05/19/1994	Protest filed	USFS	39
ID-028669	NORTHERN STONE SUPPLY	04/17/1997	08/06/1997				BLM	40
ID-021537	OAKLEY VALLEY STONE CO	09/15/1997	10/30/1997				BLM	41
N-0056127	OIL DRY CORP OF NEVADA	05/05/1997	09/15/1997				BLM	42
FF-023152	PEDERSON, STEVE, HEIRS OF	04/15/1996			02/14/1997	Costing, sampling, economics	BLM	43
OR-043015	RAINES, TERESA	09/07/1993	11/16/1994	11/26/1996		Title, reserves, discovery	USFS	44
FF-023147	SWANBERG, NELS & MARGARET	05/31/1996	02/04/1997		06/12/1997	Sampling, economics	BLM	11
FF-023150	SWANBERG, NELS & MARGARET	05/31/1996	02/04/1997		06/12/1997	Sampling, economics	BLM	11
WY-112144	THORSON, THOMAS	11/30/1994	03/01/1995	07/03/1995			BLM	45

SERIAL	APPLICANT	LOGIN660	SENTSOL	SIGNSEC	SENTSD	REASON	AGENCY	R P T N O.
WYW124176	THORSON, THOMAS	08/31/1995	03/29/1996	06/16/1997			BLM	46
AA-064561	TRACY PARTNERSHIP	09/05/1996	01/06/1997				USFS	47
OR-044681	TRESHAM, ROLAND & ELEANOR	09/04/1994	11/04/1994	07/12/1995			USFS	48
F-0086279	TWEET, N B & SONS	07/12/1994	12/29/1994	09/10/1996			BLM	49
FF-085614	TWEET, N B & SONS	10/07/1996	05/23/1997				BLM	50
CA-024679	UNITED STATES PUMICE CO	01/20/1994			06/25/1994	Excess reserves, market study	USFS	51
CA-024679	UNITED STATES PUMICE CO	01/20/1994	11/30/1994		07/20/1995	Dummy locators	USFS	51
CA-024750	VICEROY GOLD CORP	03/24/1994			10/25/1994	Sampling, reserves, verification, economics	BLM	52
FF-035221	WILKINSON, FRED D	05/10/1996					BLM	53
AZA-23448	WILLSIE, CURT L	05/12/1994			06/16/1995	Excess Reserves, Market analysis	BLM	54
AZA-23448	WILLSIE, CURT L	01/16/1996	02/08/1996	04/15/1996			BLM	54
CACA24013	WYLLIE, MERRILL M	03/27/1995	06/09/1995	11/26/1996			USFS	55

Table 2 - Analysis of Mineral Report Problems in Secretarial Review

Agency	Report Number	Issues
NPS	3	w/d date (State selection), no market analysis, w/d date, wage scales
USFS	6	Reserve calculations and explanations
	8	Title, w/d discovery (Wilderness)
	26	Sampling errors, reserve calculations, economics
	29	Sample errors (nugget effects), economics
	33	w/d date, market analysis
	44	Title, discovery, reserves
	51	Excess reserves, dummy locators, market study
BLM	11	Sampling, recovery, economics
	25	Sampling, reserves, economics
	43	Costing, sampling, economics
	52	Sampling, reserves, economics, verification
	54	Excess reserves, market analysis

Total Reports Received = 55 (2 NPS; 17 USFS; 36 BLM; [2 BLM in Review at Present])

Total Reports Reviewed = 53 (2 NPS; 17 USFS; 34 BLM)

Problem Reports = 14 (1 NPS, 7 USFS, 6 BLM)

Percent of Total Reports Reviewed = $14/53 = 26\%$

Percent by Agency (Total Reviewed Reports, N=53):

NPS = $1/2 = 50\%$; USFS = $7/17 = 41\%$; BLM = $6/34 = 18\%$

Percent of Problem Reports (N=14):

NPS = $1/14 = 7\%$; USFS = $7/14 = 50\%$; BLM = $6/14 = 43\%$

Table 3 - Mineral Report Breakdown by State Office of Origin

State	Agency Submitted			Agency Remanded			Total % Remanded
	BLM	USFS	NPS	BLM	USFS	NPS	
AK	8	2	1	3	1	1	45
AZ	1	3	1	1	2	0	60
CA	3	4	0	1	1	0	29
CO	1	0	0	0	0	0	0
ID	4	3	0	0	1	0	14
MT	2	1	0	0	0	0	0
NM	1	0	0	1	0	0	100
NV	12	1	0	0	0	0	0
OR	2	3	0	0	2	0	40
UT	0	0	0	0	0	0	0
WY	3	0	0	0	0	0	0
Total	36	17	2	6	7	1	26

Table 4 - Problem Areas in Reports

Issue	Agency BLM	USFS	NPS
W/D date analysis	0	2	1
Marketability/Market Study	1	2	1
Economic Analysis	4	2	0
Reserve Calculations	1	2	0
Sampling Problems	4	2	0
Excess Reserves	1	1	0

MINERAL REPORT REVIEW IN THE SOLICITOR'S OFFICE

I. How we review a mineral report:

- ☞ We read through the mineral report.
- ☞ We check for logical inconsistencies.
- ☞ We check for complete analysis.
- ☞ We compare the conclusions of the report against applicable case law standards.
- ☞ We research case law specific to the issues presented by the application to make sure the proper standards have been applied.
- ☞ We check the math.

II. Which applications raise a red flag?

- ☞ applications for lands within withdrawn areas.
- ☞ applications for mill sites.
- ☞ applications for mineral deposits which may be worth large sums of money.

III. What kinds of problems have we found in the mineral reports we have reviewed?

V. USE AND OCCUPANCY OF MILLSITES

Compliance with two and a half acre rule, etc.

VI. EXHAUSTION OF RESERVES

When did applicant fully comply with requirements of Mining Law?

VII. FULLY ADDRESSING ALL COSTS AND OTHER ISSUES

Example: All environmental compliance costs, including reclamation

Example: All transportation costs

Example: Water supply

Example: Inconsistent assay results

VIII. EXPLAINING ESTIMATES AND CONCLUSIONS

Example: Costs listed before are subsumed under new heading

Example: Estimate for "capitalization" costs

Example: Available market estimate on one page is less than existing competitor produces on another page of report

SPECIFIC ISSUES FOUND DURING MINERAL REPORT REVIEWS**I. DISCOVERY BY DATE OF WITHDRAWAL**

Including physical exposure

II. USE OF MINIMUM WAGE TO VALUE LABOR

IBLA has held that the value of the labor of an individual mining claimant is not to be treated any differently than that of one he might hire

United States v. Miller, 138 IBLA 246, 275 (1997) and cases quoted therein

III. USE OF MINERAL PRICES AFTER DATE OF WITHDRAWAL TO VALUE DEPOSIT

IBLA has held that the value of a claim must be tested by the value of the mineral deposit as of the date of withdrawal. The claim could not thereafter become valid even though the value of the deposit increased due to a change in the market. It is not permissible to include in an estimate of value any speculation that substantial changes in the market might occur.

United States v. Journigan, 59 IBLA 393, 403 (1982); United States v. Garner, 30 IBLA 42, 67 (1977) and other cases

IV. TITLE QUESTIONS

Example: When an association placer claim has been conveyed from original association to an individual, the mineral examiner needs to address whether a discovery existed at the time of the conveyance

Example: Dummy locators - If the mineral examiner suspects that one claimant has actually located all of the claims in an association placer claim and simply added other names, the examiner should explore this issue

Example: If the record indicates that someone other than the claimant still owns a fractional share of the claim, that must be addressed

V. USE AND OCCUPANCY OF MILLSITES

Compliance with two and a half acre rule, etc.

VI. EXHAUSTION OF RESERVES

When did applicant fully comply with requirements of Mining Law?

VII. FULLY ADDRESSING ALL COSTS AND OTHER ISSUES

Example: All environmental compliance costs, including reclamation

Example: All transportation costs

Example: Water supply

Example: Inconsistent assay results

VIII. EXPLAINING ESTIMATES AND CONCLUSIONS

Example: Costs listed before are subsumed under new heading

Example: Estimate for "capitalization" costs

Example: Available market estimate on one page is less than existing competitor produces on another page of report

Withdrawal and Patenting Restriction Considerations when Reviewing Patent Applications

In reviewing patent applications where the lands on which the claims are located have been withdrawn from mineral entry or patenting, or where location or patenting has been restricted in some way, the Solicitor's Office asks the following questions:

❶ What is the text of the withdrawal or restriction?

The Solicitor's Office looks at the statutory language withdrawing the lands from appropriation under the mining laws and/or restricting patenting. The Solicitor's Office also looks at whether the withdrawal or restriction is "subject to valid existing rights."

❷ What was the effective date of the withdrawal or restriction?

The Solicitor's Office looks at the effective date of the statute, as well as any other relevant dates specified in the statute.

❸ What was the date of each of the following events?

- Location
- Discovery
- Meeting all the requirements for patenting

The Solicitor's Office looks at each of these dates to help determine what rights had vested, if any, at the time the withdrawal or restriction became effective. Whether a patent application is complete at the time of the withdrawal or restriction is important to determining if the claimant has a right to a patent.

❹ What is the chronology of events?

The Solicitor's Office establishes a chronology of the effective date of the withdrawal or restriction and the dates of location, discovery, and filing of a patent application to determine the claimant's rights.

❺ If the statute provides for valid existing rights, had the claimant established valid existing rights at the time of the withdrawal or restriction?

The Solicitor's Office looks at whether the claimant actually had valid existing rights at the time of the withdrawal or restriction, since claimants who have already established a right to a claim or to a patent may escape the withdrawal or restriction.

❻ Based on this information, what effect, if any, does the withdrawal or restriction have on the potential patent?

After reviewing the type and breadth of the withdrawal of the restriction and the chronology of events, the Solicitor's Office reviews the patent instrument to make sure it includes any applicable restrictions or reservations, and reviews the mineral report to make sure that the important dates were considered in the mineral report.

Example 1

Claimant locates a placer claim on a river in Montana on August 8, 1956. Claimant makes a discovery of gold, a valuable mineral, on July 23, 1958. Claimant meets all the requirements for patenting by February 17, 1968. On October 2, 1968, Congress designates the lands on which Claimant's claim is located as a wild and scenic river area pursuant to the Wild and Scenic Rivers Act, 16 U.S.C. § 1280. The Wild and Scenic Rivers Act provides:

Nothing in this chapter shall affect the applicability of the United States mining and mineral leasing laws within components of the national wild and scenic rivers system except that . . .

(ii) subject to valid existing rights, the perfection of, or issuance of a patent to, any mining claim affecting lands within the system shall confer or convey a right or title only to the mineral deposits and such rights only to the use of the surface and the surface resources as are reasonably required to carrying on prospecting or mining operations and are consistent with such regulations as may be prescribed by the Secretary of the Interior or, in the case of national forest lands, by the Secretary of Agriculture; and

(iii) subject to valid existing rights, the minerals in Federal lands which are part of the system and constitute the bed or bank or are situated within one-quarter mile of the bank of any river designated a wild river under this chapter or any subsequent Act are hereby withdrawn from all forms of appropriation under the mining laws and from operation of the mineral leasing laws including, in both cases, amendments thereto.

Assume claimant complied with all statutory and regulatory requirements for maintaining his claim from the time of location to the time of filing a patent application.

Assuming that Claimant meets all the other requirements for obtaining a patent, what kinds of restrictions, if any, should there be on Claimant's patent based on this withdrawal and restriction?

Example 1

Claimant locates a placer claim on a river in Montana on August 8, 1956. Claimant makes a discovery of gold, a valuable mineral, on July 23, 1958. Claimant meets all the requirements for patenting by February 17, 1968. On October 2, 1968, Congress designates the lands on which Claimant's claim is located as a wild and scenic river area pursuant to the Wild and Scenic Rivers Act, 16 U.S.C. § 1280. The Wild and Scenic Rivers Act provides:

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Assume claimant complied with all statutory and regulatory requirements for maintaining his claim from the time of location to the time of filing a patent application.

Assuming that Claimant meets all the other requirements for obtaining a patent, what kinds of restrictions, if any, should there be on Claimant's patent based on this withdrawal and restriction?

Example 2

Claimant located a claim in the Dixie National Forest in Utah on June 16, 1964. On September 28, 1964, the Wilderness Act was enacted and designated the lands surrounding the claim as the Ashdown Gorge Wilderness. The Wilderness Act stated:

Notwithstanding any other provisions of this chapter, until midnight December 31, 1983, the United States mining laws and all laws pertaining to mineral leasing shall, to the same extent as applicable prior to September 3, 1964, extend to those national forest lands designated by this chapter as "wilderness areas"; . . . hereafter, subject to valid existing rights, all patents issued under the mining laws of the United States affecting national forest lands designated by this chapter as wilderness areas shall convey title to the mineral deposits within the claim, . . . but each such patent shall reserve to the United States all title in or to the surface of the lands and products thereof, and no use of the surface of the claim or the resources therefrom not reasonably required for carrying on mining or prospecting shall be allowed except as otherwise expressly provided in this chapter: Provided, That, unless hereafter specifically authorized, no patent within wilderness areas designated by this chapter shall issue after December 31, 1983, except for the valid claims existing on or before December 31, 1983. Mining claims located after September 3, 1964 within the boundaries of wilderness areas designated by this chapter shall create no rights in excess of those rights which may be patented under the provisions of this subsection. . . . Subject to valid rights then existing, effective January 1, 1984, the minerals in lands designated by this chapter as wilderness areas are withdrawn from all forms of appropriation under the mining laws and from disposition under all laws pertaining to mineral leasing and all amendments thereto.

Claimant made a discovery of gold, a valuable mineral, on March 3, 1968. Claimant met all the requirements for patenting by April 5, 1971. Assume Claimant complied with all statutory and regulatory requirements for maintaining his claim from the time of location to the time of filing a patent application.

Assuming that Claimant meets all the other requirements for obtaining a patent, what kinds of restrictions, if any, should there be on Claimant's patent based on this withdrawal and restriction?

Example 3

Claimant located one lode claim in the California's Mojave Desert on September 28, 1964. Claimant made a discovery of gold, a valuable mineral, on November 30, 1968. On October 31, 1998, the California Desert Protection Act was passed and the lands on which Claimant's claim is located were designated as part of the Mojave National Preserve. The California Desert Protection Act states:

"Subject to valid existing rights, all mining claims located within the preserve shall be subject to all applicable laws and regulations applicable to mining within units of the National Park System, including the Mining in the Parks Act (16 U.S.C. 1901 et seq.), and any patent issued after the date of enactment of this title shall convey title only to the minerals together with the right to use the surface of lands for mining purposes, subject to such laws and regulations.

Claimant met all the requirements for patenting by December 1, 1994. Assume claimant complied with all statutory and regulatory requirements for maintaining his claim from the time of location to the time of filing a patent application.

Assuming that Claimant meets all the other requirements for obtaining a patent, what kinds of restrictions, if any, should there be on Claimant's patent?

**Course 3000-77 Technical Review of Mineral Reports
National Training Center
April 20-24, 1998**

***Roger A Haskins CRME No. 003
Solids Group (WO 320)***

Approaches to Technical Review

I. Role of the Reviewer

- A. Technical Accuracy.
- B. Legal Accuracy.
- C. General Readability and Comprehension.
- D. Quality Control.

II. Audience of the Final Product

- A. Past Practice - BLM CRME, DSD and DM.
- B. Now BLM HQ CRME and Solicitor's Office either at HQ or Field Solicitor level.

III. Documentation of the Review

- A. Necessary for Audit Control.
- B. Necessary for CME appraisal.
- C. Necessary for Justification of Recommendations and/or Contest.
- D. Use memo and detailed list of corrections for CME to follow.
- E. If you use "sticky notes" photocopy page of draft report with "sticky notes" in place.
- F. Document what questions need to be answered to validate these mining claim or sites?

IV. Review Checklist

- A. Use Matt's NTC material.
- B. Use Form 3060-2 as cover sheet for time being.

V. Professionalism in Reviewing a Mineral Report

- A. Be diplomatic, even if you can't stand the person.
- B. You are a professional, act like one (you might be in the same boat someday!).
- C. "Good old boy" process is neither useful or desirable.
- D. Focus on "meat" and substance. Nit picking minor errors can be irritating to both reviewer and CME.
- E. Focus on the questions that need to be answered in the examination and the necessary data and analysis required to answer those questions.

VI. Examiner and Reviewer Relationships

- A. Keep it Professional!! Keep personalities out of it.
- B. Reviewer's job is a quality control function, even if it is not appreciated by the examiner.
- C. Reviewer's job is to guide the report through to completion and to ensure it is technically and legally adequate for the purpose intended. It should focus on the questions that need to be answered for the commodity(ies) and property concerned
- D. Reviewer and CME should be working together on the project on a cooperative basis, keeping in mind that the final review will be at HQ level in mineral patent cases.
- E. Reviewer should be consulted by CME whenever "sticking points" arise. Its better to resolve problems at the initial stages instead of having a problem grow to major proportions later in the process.

VII. Peer Assistance and Help (Examiner and Reviewer)

- A. Don't be afraid to ask for help!

- B. No one person has all of the information or knowledge about all deposit types or mine processes that occur in this world!
- C. The Panel can assist in referrals to CME's that have experience and expertise in the different commodities and types of operations.
- D. The Office of the Solicitor, Mineral Resources Branch, should be consulted early on if the situation may generate new case law, or if the issue raises new or novel legal aspects that will need to be addressed in the processing of the mineral examination and report.

VIII. Examiner and Supervisor Relationships

- A. Technical and legal criteria are not subject to management intervention.
- B. If management is attempting to influence or subvert the examination process, bring it to my attention, along with the pertinent details. I will have "line management" intervene from this level.
- C. If supervisor is giving a CME a "hard time" over the length or cost of examination, reviewer should be prepared to intervene and explain to supervisor the an examination cannot be done "overnight" and that yes, assays are expensive but are a vital and essential component of the validation process.
- D. Remainder to supervisors - if its not done right the first time - HQ will remand it and it will be done again!! (at your additional cost of course).

IX. Focus of a Review

- A. What are the questions that require an answer for this property and the commodities involved?
- B. Are the questions all addressed?
- C. What are the technical standards and criteria necessary to answer these questions?
- D. What legal standards (case law) are associated with these questions?
- E. Has the case law been properly applied in answering these questions?
- F. Are the topics contained in the Mineral Examiners Handbook and the Mineral Report Manual addressed?

- G. Are these topics addressed adequately so that the report will pass administrative muster?
- H. Are these topics and the questions to be answered addressed in the proper level of technical and legal detail?
- I. Are the conclusions and recommendations of the report adequately supported by the technical material in the report?
- J. Is the level of analysis in each section of the report sufficient to sustain and justify the CME's conclusions?
- K. Focus on critical material, critical data, and critical analytical material required to substantiate the CME's answers to the questions under consideration and to the CME's rationale for the conclusions reached.
- L. Do not review the report as if it were going to be published in the Journal of Economic Geology or the Journal of the Geological Society of America!!!!

X. Technical Standards to be Applied in a Review of a Mineral Report

- A. Is the sampling approach and assay method generally applicable to this form of deposit and commodity?
- B. Is the cost estimation method(s) chosen generally applicable to this form of mining operation and associated deposit?
- C. Is the milling and beneficiation method(s) generally applicable to this commodity and form of deposit?
- D. Is the economic analysis method chosen realistic and sensible for this operation?
- E. Is the assignment of cutoff grades and therefore ore reserves allocation rational given the information derived from the geology, mining methods, milling, and project economics?
- F. Is the mineral-in-character analysis based upon sufficient geologic information to pass the "red face test?"
- G. Is the geologic mapping tied to the deposit and mineralization and in sufficient detail to answer your questions?

- H. Is the sampling program tied to the geologic framework or model?
- I. Has the examiner fully explained for the intended audience any process or procedure that the informed layperson would not immediately recognize or be familiar with?
- J. If the examiner decides not to use certain data and information of the claimant in the mine model or elsewhere, has the examiner fully explained the rationale for doing so?

XI. Legal Standards to be Applied in a Review of a Mineral Report

- A. Has the general case law for discovery and marketability been referenced and applied?
- B. Has commodity specific case law been referenced and applied?
- C. If the examination discloses unusual or unique circumstances, has the examiner researched the matter and cited and applied the applicable case law?
- D. If the examination discloses unusual or unique legal circumstances, has the examiner consulted with the Solicitor's Office?
- E. If there is no case law available, has the examiner then fully explained the rationale for proceeding on the chosen path?

XII. Differences of Professional Opinion

- A. Distinction is made between differences over case law application and technical standards in the course of the examination.
- B. In all cases, the published case law on a specific issue is dispositive of the issue, even if the CME or reviewer may personally disagree over the position of the IBLA or Courts on the matter.
- C. Each type of mineral deposit has an accepted method (s) of sampling and assaying associated with it. These accepted standards are expected to be observed by all examiners and reviewers in the course of the examination and review.
- D. Novel or unusual deposits or commodities should be researched and see if there is an industry accepted method(s) for it. If so, use it. If not, study the matter logically and formulate a procedure to handle it.

- E. Consultation with other CME's, reviewer's, Panel members, and the Solicitor's Office is encouraged if the situation is unusual or unique.
- F. If a difference of professional opinion on approach to a specific problem cannot be resolved between the examiner and the reviewer, the matter is to be referred to the Mineral Examiner's Certification Panel. The Panel will confer and suggest the recommended method(s) for the issue at hand.
- G. If the difference of professional opinion will result in an irreconcilable deadlock between the reviewer and the examiner, the matter is to be referred to the Panel who, on behalf of the Assistant Director, will resolve the matter.

XIII. Third Party Arbitration

- A. If the reviewer and examiner cannot reach agreement on modifications to a mineral report, the report can be sent to another reviewer for a second opinion by the DSD concerned.
- B. The Panel can also act as the second reviewer, with a Panel member with the appropriate area of expertise providing either a second opinion, or the actual review if necessary.

XIV. Formal Review Chain of Command

- A. Transmittals for review should be by cover memorandum for the actual review. Peer reviews and informal reviews prior to formal submission are not necessary to document.
- B. Transmittals for third party second opinions or Panel review should be documented by cover memoranda also.

XV. Secretarial Review Process at BLM Headquarters

- A. Transmittal from SD - to AD (300) of case file with report included.
- B. Routed to me in Solids Group (320) as HQ CRME.
- C. I review or route report to selected CRME acting as extended HQ reviewers.
- D. I review remainder of case file for technical adequacy prior to transmittal to Director.
- E. Assuming report and case file are in order, transmittal with report of finding and

recommendations is sent to Director for concurrence.

- F. After Director concurs (usually pro forma process), case file goes to Office of the Solicitor for final Departmental legal review.
- G. If problems with report or case file occur, and they are not major, I will contact State Office directly and have things "fixed" and FEDEXed into my office.
- H. If major problem occurs, I will, through the office of AD-300, remand the case file and report to State Office with written instructions on what requires corrective action.

XVI. Role of Solicitor's Office Final Review

- A. Mineral Resources Branch receives case file and logs it in.
- B. Case assigned to an attorney for review

XVIII. Interaction of BLM HQ and SOL in Final Secretarial Review Process

- A. If questions arise concerning report or file, attorney usually contacts me and we go over the situation. Most of issues can be resolved at this stage.
- B. If issue is one the SOL feels requires additional field input, they contact State Office directly.

XIX. Interaction of Field with HQ and SOL in Secretarial Review Process

- A. Field and SOL interact on case specific basis, with copies to me as AD-300 program lead.
- B. After additional information requested is received, the attorney will make final recommendations to SOL as to disposition of the case.